

drafted by the IUCN Species Survival Committee, ESAC (Endangered Species Action Committee, convened by ANPWS) and relevant experts, soon.

In the meantime we need to promote public participation. There is ample evidence of public interest in bats and a willingness to get involved (e.g., Bat Watch, Augée, Ku-ring-gai Bat Colony Committee, Pallin, and Brisbane's Batty Boat Trips). This growing interest in bats is

reflected internationally by the outstanding success of Bat Conservation International and the British Bat Clubs. It is this public ground-swell that needs to be fostered to aid bat conservation in Australia. While I agree with Recher that ultimately government/politicians call the shots and provide the funds, they also react to public opinion. We need a national co-ordinator who is apolitical and as Augée says we now need to re-address bat conservation issues from "they orta" to "we can".

Response to papers by H. F. Recher and J. F. Whitehouse

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The recent papers by Recher (1990) and Whitehouse (1990) are important contributions to the literature on conservation.

Recher (1990) clearly emphasizes the magnitude of the tasks to be addressed and the urgency with which they must be tackled. Conservation cannot be regarded as the province of some minor backwater of the bureaucracy but as activity which affects (and is affected by) the whole population and which should be central to government.

The declaration and management of formal conservation reserves should be only one component (but an essential one) of conservation policy. Recher and Whitehouse are in agreement that in New South Wales the existing reserve network is an inadequate sample of the State's wildlife.

Whitehouse provides an explanation of how the present reserve network was developed. During the first twenty or so years of the National Parks and Wildlife Service's existence, the organization's conservation objectives have been unclear (which is not to say that at various times individuals might not have had very clear ideas of what the objectives ought to be) or so broadly defined as to be motherhood statements and land acquisition has to a large extent been driven by opportunity and outside pressure, although at least ostensibly, remaining within the framework originally developed by the Scientific Committee on Parks and Reserves. (Whitehouse argues that the model for the Service is to be sought in the United States National Parks Service, and certainly the public identification of NPWS is of a body similar to its United States counterpart. However, if the Scientific Committee has antecedents I would suggest that they are in the committee which met in wartime England to produce Cmd 7122 — "Conservation of Nature in England and Wales", the blueprint for

the Nature Conservancy and probably the first national list of sites of exceptional conservation interest).

The title of Whitehouse's paper was "Conserving what? ...". While it remains important to secure more sites for conservation, those sites already reserved must be managed. What should be the objectives of management?

In determining priorities and resources for management, it seems to me that the NPWS faces problems stemming from its basic objectives. The Service is charged with the delivery of official conservation policies but it also has a major role to play in the provision of a wide range of recreational experiences (as well as more traditional uses of natural areas, the environment is increasingly seen as a major tourist attraction, leading to pressures for the establishment of new and larger facilities in, or close to, conservation areas). This dichotomy of purposes finds its expression in the terminology of conservation reserves. National Parks and State Recreation Areas provide recreational opportunities while Nature Reserves are established primarily to meet nature conservation goals. Clearly National Parks have also always met nature conservation objectives (and even some SRAs contain areas of high conservation value) while some Nature Reserves have well developed visitor facilities. Nevertheless, while most of the general public could name at least one National Park, very few would even have heard of Nature Reserve and the Service's role is seen primarily as providing facilities within pleasant natural surroundings. [The 1988-89 Annual Report is largely illustrated by pictures of facilities with no pictures of wildlife.]

Very few Nature Reserves have a formal plan of management while plans of management for National Parks rarely have much to say about conservation. The public might not see this as a problem — make provision

for the minimization of the environmental impacts of visitors and "nature" will look after itself. Unfortunately, few National Parks, and even fewer Nature Reserves, are big enough to be free of outside influences. In order to retain the conservation values of reserves, it will be necessary to engage in active management. What should be the objectives of management and how should they be achieved?

This raises many difficult questions. If maintenance of all species is seen as a major objective then the populations of some of our rarest species may already be too small for long-term viability. It may be possible to increase local population densities to levels well above those in unmanaged sites through habitat manipulation. If practised on a large spatial scale, would such manipulation be acceptable?

Plans of management for National Parks identify resources regarded as being of high conservation value and ensure that they are not subject to excessive disturbance. However, rarely are specific management prescriptions advanced. Other than visitor management, the main issues in many plans are control of noxious species and fire. Manipulation of fire regimes may have profound ecological consequences. Changes in regimes may alter relative abundances of species, offering the prospect of consciously favouring some species over others through burning practices. To date, most fire management plans have been aimed at modifying fuel loads rather than meeting specific conservation goals, nevertheless, such policies will affect conservation options.

Whitehouse (1990) has argued that decisions on further expansion of the reserve network should be resource based rather than site based. I would suggest that establishment of a conservation management regime must also be resource based. Management objectives have to be capable of implementation — in many cases current ecological knowledge will provide an inadequate basis for action but definition of clear management goals is needed to provide focus for research.

Can the Service meet the tasks before it? Unfortunately, as an outside observer, I am pessimistic. In terms of securing additional areas, Whitehouse (1990) has pointed out that the budget for acquisition is likely to diminish while the cost of potential new areas will increase. Unlike Mr Micawber, we cannot wait for things to get better, opportunities not grasped now will be lost for ever. On the management side, the staff resources are minimal and the budget is possibly inadequate to maintain existing facilities. It is obviously essential to maintain at least the present standard of visitor facilities but this leaves little, or no, capacity to implement major

conservation management programmes. At times of general budget restraint, the conventional political and bureaucratic response will be that conservation must be treated in the same way as other government activities and the best that can be expected is that relativities will be maintained. The urgency of the problems so clearly articulated by Recher (1990) does not allow us the option of this conventional wisdom; no longer can we hope that everything will be alright in the end (the meek will inherit the earth — if that's OK with you chaps). We must fight harder before it is too late.

However, even at best, as Recher (1990) argues "Conservation by reservation is a limited option". There is a necessity to change our whole approach to landuse allocation and management and to environmental issues. Recher (1990) stressed the importance of non-government organization in providing the pressure to influence government. Over the last decade, there have been enormous changes in public opinion and government responses but is the rate of change adequate to meet the challenge?

There are obviously limits to government action and we all, individually, have to take responsibility. Governments are taking greater powers to discipline industry but there is reluctance to address landuse issues. If the approach to date has been "carrot and stick" the carrots have been distinctly woody and the stick, largely a hollow threat. New South Wales has a number of instruments which could be used to influence landuse — Part V of the Environmental Planning and Assessment Act could be applied with more rigor, new State Environment Planning Policies could be introduced. Unfortunately, a legal/planning approach to land use issues provides a means for stopping things happening but, in itself, does not promote sound management. Other measures are needed to support landholders involvement in conservation. Conservation agreements could make a big contribution but their early history is scarcely auspicious. Governments have identified the major problems but this, in itself, does not solve them. Until the pecking order within the bureaucracy is overturned, responses are likely to remain too little, too late.